

Monitoring Study Group Meeting Minutes

November 29, 2005

CDF Mendocino Unit Headquarters, Howard Forest Training Center

The following people attended the MSG meeting: George Gentry (BOF-Executive Officer and acting chair), Tom Spittler (CGS), Dr. Richard Harris (UCB), Dr. Rich Walker (CDF-FRAP), Rich Klug (Roseburg Resources), Stacey Stanish (DFG), Dave Hope (NCRWQCB), Sam Flanagan (NOAA Fisheries), Tharon O'Dell (GDRC), Dave Longstreth (CGS), Peter Ribar (CTM), Julie Bawcom (CGS), Dr. George Robison (HSU), Gary Rynearson (BOF), Brad Valentine (DFG), Jason Phillips (A.A. Rich and Associates), Kirk Vodopals (MRC), Richard Gienger (HWC/SSRC), Dennis Hall (CDF), Mike Laing (NCCFFF), and Pete Cafferata (CDF). Participating by phone were: Shane Cunningham (CDF), Angela Wilson (CVRWQCB), and Erika Lovejoy (Lahontan RWQCB). **[Note: action items are shown in bold print]**.

We began the meeting with general monitoring-related announcements:

- A conference titled "Forest Roads: Advancements in Science and Technology" will be held on December 13-14, 2005 in Eugene, OR. Sponsors are ODF, USFS-PNW and the Western Forestry and Conservation Association (see: <http://westernforestry.org/forestroads/forestroads.htm>).
- The 27th Annual Forest Vegetation Management Conference will be held in Redding on January 17-19, 2006. For more information, contact Sherry Cooper, UC Cooperative Extension at: slcooper@nature.berkeley.edu.
- The 24th Annual Salmonid Restoration Conference will be held in Santa Barbara on February 22-25, 2006. For more information, see: <http://www.calsalmon.org/conference/2006/index.htm>.
- The NCRWQCB meeting on December 7th in Yreka includes a presentation by Mark Stopher, DFG, titled "Proposed Regulations for Incidental Take Permits for Coho Salmon on Timberlands," as well as a public hearing on the Scott River TMDL. For more information, see the following webpage: http://www.waterboards.ca.gov/northcoast/agenda/12_2005/12_2005.html.
- The SWRCB will hold a special Board and Workshop Meeting on December 9th in Sacramento. One workshop agenda item is titled "Discussion of Preliminary Recommendations from the External Scientific Planning and Review Committee Regarding the Surface Water Ambient Monitoring Program (SWAMP)." See: <http://www.swrcb.ca.gov/agendas/2005/december/120905mtg.html>.
- The final report of the interagency Riparian Protection Committee titled "Flood Prone Area Considerations in the Coast Redwood Zone" is posted on the CDF Forest Practice webpage at: http://www.fire.ca.gov/php/rsrsc-mgt_content/downloads/RiparianProtComWhitePaperfinal.pdf.
- George Robison announced that HSU graduate student Peter Manka's Masters thesis titled "Suspended Sediment Yields in Tributaries of Elk River, Humboldt County, CA" is now posted at the following webpage: <http://www.humboldt.edu/%7Eegr2/documents/MankaThesis.pdf>.
- Richard Harris updated the group about the UC watercourse crossing upgrade study. Pre-treatment and post-construction data collection is complete for 30 crossings; remeasurements will be made in the spring following stressing winter storm events. A final report will be completed by June 30, 2006.
- Tom Spittler announced that the BOF Roads Committee continues to make progress preparing a revision of the Forest Practice road rules, including reorganizing the rules, removing redundancies, and adding a few required new items.
- Tom Spittler stated that the 3rd Annual U.C. Berkeley River Restoration Symposium will be held December 3rd at Room 112, Wurster Hall, UC Berkeley.
- Tom Spittler stated that the fall American Geophysical Union (AGU) meeting will be held in San Francisco on December 5-9, 2005. For more information, see: <http://www.agu.org/meetings/fm05/>.
- Sam Flanagan reported that there is a complete set of abstracts available from the "Science and Management of Headwater Streams in the Pacific Northwest" conference held on November 17-18, 2005 in Corvallis, Oregon. A special edition of Forest Science will include papers from the conference.
- Peter Ribar announced that the SWRCB will hold a 303(d) listing workshop in Sacramento on December 6, 2005. For more information, see: http://www.swrcb.ca.gov/tmdl/docs/303d_update/workshopnotice303d.pdf.

New Business—Threatened and Impaired Rule Package Review Discussion

BOF member Gary Rynearson reported that he was asked by the Board to attend this MSG meeting to discuss possible mechanisms for review of recent research pertaining to the Threatened and Impaired Watersheds Rule Package (T&I Rule Package), which went into effect on July 1, 2000 and will expire at the end of December 2006. He stated that at the last BOF Forest Practice Committee meeting held on November 15th, while there were widely divergent opinions from stakeholders regarding the T&I Rule Package, the one common thread was that further action should be based on current science. Frustration was expressed at that meeting regarding the initial development of these rules and the lack of monitoring data currently available regarding their effectiveness—largely due to inadequate funding for monitoring the past three years. Gary also stated that landowners still want a watershed assessment procedure in place that would allow watershed-specific prescriptions to be developed, in lieu of the T&I Rules. This was agreed to when the T&I Rules went into effect, but has not been successfully developed, in spite of several attempts. Additionally, there are concerns by landowners over the geographical extent of the T&I Rules.

Gary and Pete Cafferata prepared a handout for discussion purposes that included the following goal: "Provide a timely and technically sound review of key aspects of the Threatened and Impaired Watersheds Rule Package for the State Board of Forestry and Fire Protection by mid-2006." Four key questions were listed, including: (1) What buffer width is needed for suitable recruitment of large wood?, (2) What buffer width is needed for suitable temperature and humidity control?, (3) What buffer width is needed to control temperature from solar radiation?, and (4) What buffer width is needed for filtration of sediment? Gary stated that review of buffer strip requirements will be the main issue for the T&I Rule Package review, due to their importance for adequate aquatic species habitat protection/restoration, the economic consequences of differing protection measures, and the limited time frame available for technical review.

Mr. Rynearson then stated that there are three main approaches that can be used for a rapid review of the research related to the T&I Rule Package: (1) use of a structured committee, (2) hire a qualified contractor, or (3) use a combination of both (1) and (2) above. The technical review of the research will be required to go back to the Forest Practice Committee of the BOF by July of 2006. Any rule package language changes would be developed in the Forest Practice Committee, not the contractor or structured committee.

Following this introduction, there was a general discussion regarding possible approaches for this review. Tom Spittler suggested that it would be appropriate for MSG members or the structured committee to compile a list of key references to facilitate a rapid review by a contractor. He also expressed the opinion that set buffer widths are generally inappropriate, and that what is needed is site-specific information to determine the specific buffer requirements that are required for a given situation. Dave Hope stated that both NOAA Fisheries and DFG have completed recent reviews that deal with these issues, and that much of this work is already completed. George Robison added that there have been recent Oregon Forest Practice rule sufficiency rule reviews, as well as HCP reviews, that are applicable.

There was general agreement that it was questionable whether this topic should be under the purview of the MSG, since it is considerably broader than just monitoring-related information

related to water quality. There was also agreement that a structured adjunct committee of the BOF's Forest Practice Committee could function effectively to manage the contract for the consultant that is hired to conduct the scientific review and synthesis of the literature.

It was agreed that the tentative plan outlined below would provide the highest likelihood of success for a rapid T&I Rule Package review:

- **Members of the MSG will send pertinent reference citations related to buffer strip requirements to Pete Cafferata (pete.cafferata@fire.ca.gov) in a timely manner.**
- **A structured Adjunct Committee of the BOF Forest Practice Committee (made up of MSG members, as well as others) will be appointed and serve to guide/oversee the hired consultant's work in reviewing the technical literature related to buffer strip requirements. [Committee is to be composed of agency representatives, qualified members of the public, landowner representatives, academic representatives, etc.]**
- **A CDF Request for Proposals (RFP) will be developed in a short time to quickly hire a qualified contractor for the technical review and synthesis of information related to buffer strip requirements (providing funding is available from CDF) [RFP to be developed by mid-December 2005].**
- **Gary Rynearson, George Gentry, and Dennis Hall will take the lead in developing the Adjunct Committee and draft RFP. Draft products are to be discussed at the December 13th BOF Forest Practice Committee meeting in Sacramento.**

Summary of Field Turbidity Workshop

Pete Cafferata showed a short PowerPoint presentation summarizing the field turbidity workshop held on November 1, 2005 at Fort Bragg's Town Hall and on Jackson Demonstration State Forest. Two indoor presentations were made in the morning. George Robison's keynote presentation titled "Uses of Field Measurement for Turbidity: Examination of the Spectrum of Available Strategies" is available on the BOF MSG website (see: http://www.bof.fire.ca.gov/pdfs/Robison_Turbidityintro.pdf). Jack Lewis, USFS-PSW, spoke about turbidity data management. He provided numerous examples of situations requiring data repair/clean-up, including calibration drift, bio-fouling (especially for non-wiper models), air bubbles from turbulence, direct sunlight, bedload burial, non submergence, debris in channel (leaves, etc.), equipment failures, and human failures. Following an indoor demonstration of laboratory determination of turbidity values, the group of approximately 70 people traveled to the South Fork Caspar Creek watershed. Four stations were set up along the South Fork, with groups rotating between stations. Dr. Kate Sullivan, PALCO, demonstrated grab sampling, including how to collect water samples with a DH-48 sampler. Dr. Cajun James, SPI, demonstrated how to use multiple sensor YSI Sondes, gas bubblers for stage, ISCO pumping samplers, and the Hach 2100P for rapid field turbidity measurement. Matt House, Green Diamond Resource Co., explained how to collect continuous recording turbidity data from a permanent main stem station installation (SF Caspar Station QUE). At the last station, Liz Keppeler, USFS-PSW, demonstrated turbidity and sediment collection at a much smaller permanent tributary station (SF Caspar Station POR) outfitted with a Montana flume. **PDF versions of the workshop summary PowerPoint are available upon request to Pete Cafferata (pete.cafferata@fire.ca.gov).**

At the end of the workshop summary PowerPoint, Pete stated that Richard Harris is currently in the process of writing a paper summarizing applications of turbidity monitoring to forest management. This paper will address questions such as: (1) what are the potential applications?, (2) what are appropriate study designs?, (3) what equipment is most appropriate for the different applications?, and (4) what has been the experience of others? Richard explained that there is currently no general guidebook available explaining when and where the different turbidity monitoring equipment should be used in the field. Richard is planning to use different case studies to illustrate the different applications of this type of equipment. Interviews may be used to develop the case studies for the paper. It is anticipated that the paper will either be a UC report or published in an appropriate journal. There was general agreement from the group that this type of paper is needed and that it would be useful to people developing water quality monitoring programs. **Richard currently has rough draft for the paper and stated that he is willing to email it to those interested in providing input (contact Richard at: rrharris@nature.berkeley.edu).**

Continued MSG Strategic Plan Revision Discussion

George Gentry led the continued discussion (started at the July 2005 MSG meeting) on possible revisions to the existing Monitoring Study Group Strategic Plan approved by the BOF in January 2000 (see: http://www.bof.fire.ca.gov/pdfs/MSGStrategicPlandraft5_7.pdf). A handout was provided summarizing the original 10 Strategic Plan goals, along with a draft set of 10 possible revised goals. Item No. 1 on the revised list includes the concept of a “structured” MSG technical advisory committee to provide advice to the BOF on technical aspects of proposed rule changes related to water quality, soil erosion, and watershed conditions. Item No. 2 relates to rule package review (particularly T&I Rules), and was discussed at length in the a.m. session of this meeting. Mr. Gentry stated that discussions in past MSG meetings have led him to conclude that members enjoy the current informal, unstructured MSG configuration that leads to sharing of information. Additionally, however, he stated that he heard the group articulate that there would be utility in having a structured review committee, though not necessarily an MSG subcommittee. **Therefore, it is likely that items 1 and 2 on the revised list will be handled with structured committees outside the purview of the MSG.**

Items 3-10 on the revised list relate to providing guidance and oversight for a second phase of the Modified Completion Report (MCR) monitoring process and the new Interagency Mitigation Monitoring Program (IMMP), providing a forum to discuss monitoring work being conducted by all stakeholders, facilitating the development of cooperative instream monitoring projects, providing timely information from finished and ongoing projects to the BOF and others, and using monitoring results in training programs. **There were several comments from the group on how to reword these individual items for improved clarity. Mr. Gentry and Pete Cafferata will rewrite the revised draft Strategic Plan goals for review by the MSG at the next meeting in January.**

Discussion continued on possible additional items to include with the goals for the revised Strategic Plan. Rich Walker asked the group if it would be appropriate to include language in the revised Strategic Plan regarding monitoring of fuel hazard reduction work (e.g., prescribed fire, mechanical treatment, herbicide treatment, etc.). Dr. Walker is working on the Vegetation Management Program (VMP) EIR and monitoring remains a significant issue.

He stated that the USFS is tracking its projects in a geo-referenced database and encouraging states to monitor and record data in similar types of databases. Mr. Gentry stated that this is a possible item to include in the revised MSG Strategic Plan, since it is clear that a monitoring component is required for the VMP EIR.

Richard Gienger stated that the revised MSG Strategic Plan should include language leading to the development of required landowner self-monitoring (i.e., private component monitoring). Pete Cafferata stated that this is largely the approach already taken by the CVRWQCB in their recently adapted waiver monitoring program. Angela Wilson said that Jim Pedri, Assistant Executive Officer for the CVRWQCB, recently held workshops explaining the waiver monitoring requirements (see Attachment B, Monitoring and Reporting Conditions, at: http://www.waterboards.ca.gov/centralvalley/adopted_orders/Waivers/R5-2005-0052.pdf). Implementation monitoring is required by the discharger for most plans requesting a waiver permit. **Mr. Gienger informed the group that he believes it would be valuable to have Mr. Pedri make a presentation on their waiver monitoring process at a future MSG meeting.** Mr. Laing stated that the Northern California Chapter of the Federation of Fly Fishers reviewed the CVRWQCB waiver monitoring program and determined that it was a good place to start for a monitoring program.

Additionally, the question was raised whether the original goal in the January 2000 Strategic Plan is still appropriate. In that document, the stated mission of the MSG is as follows: *The Monitoring Study Group's (MSG's) monitoring program will provide timely information on the implementation and effectiveness of forest practices related to water quality that can be used by forest managers, agencies, and the public in California.* Underlying this mission statement was the fact that the MSG was originally created to develop a long-term monitoring program that would fulfill the U.S. EPA requirements, leading to certification of the Forest Practice Rules as BMPs, as has occurred in numerous other states (see page 3 of the January 2000 Strategic Plan). Peter Ribar stated that this goal is still appropriate, and that it is still important to the forest industry in California. He stated, however, that the certification issue per se should not be a direct goal of the MSG—rather this should be led by the BOF. George Robison stressed that it is imperative to incorporate California's monitoring results to date, along with those from the other western states, in the T&I Rule Package review discussed earlier, so that it clearly can be demonstrated to the U.S. EPA that an adaptive management feed back loop has been used in the rule review/development process, leading to possibly an improved chance for EPA certification.

Hinkle Creek Watershed Study Summary

Pete Cafferata provided the MSG with a detailed PowerPoint presentation on the comprehensive Hinkle Creek watershed study currently operating in western Oregon (see: <http://www.oregon.gov/ODF/PUBS/docs/HinkleCrkProj/HinkleCrkProj.pdf>). Hinkle Creek has a state-of-the-art paired/nested design that will allow the impacts of current logging practices on water quality, fisheries, macroinvertebrates, and amphibians to be documented. It is located in the Oregon Cascade Mountain foothills and is part of the Umpqua River basin. Both the North and South Forks are approximately 2500 acres, making the total study catchment 5000 acres. The South Fork is the treatment watershed and the North Fork the control. Six headwater non-fish bearing tributaries are being monitored for flow, sediment, and turbidity, in addition to the gaging stations located at the base of the North and South Forks. Two tributary stations are located in the North Fork and four in the South Fork.

The land is owned by Roseburg Forest Products, a large industrial forest landowner in Oregon. The timber type is 55 year old harvest regenerated Douglas-fir. The parent material is volcanic rock and mean annual precipitation ranges from 55 to 75 inches. The study is projected to last 10 years (through 2011). There are two main study objectives: (1) determine the impacts of contemporary logging practices on non-fish bearing streams (with implications for the need for buffer strips on non-fish bearing streams), and (2) determine the impacts of current timber operations on the resident coastal cutthroat trout population present. Previous paired watershed studies in Oregon (i.e., the Alsea Watershed Study and the H.J. Andrews Watershed Study) were conducted on old-growth stands without modern forest practice rules and new roads were constructed. Results from these studies are not directly applicable to watersheds being managed today in Oregon. Hinkle Creek fulfills the need for a modern study being managed as typical industrial timberlands are in western Oregon. Dr. Arne Skaugset of OSU is the overall study leader.

Six funded study components exist at Hinkle Creek. They include: (1) hydrology and water quality, (2) fisheries, (3) amphibians, (4) macroinvertebrates, (5) stream chemistry and soils mapping, and (6) integrated data analysis. The total budget projected for fiscal year 2005 for these studies, plus program administration and overhead is \$905,625, with the hydrology and fisheries studies being the most heavily funded. The amount of pre-project data collection varies for each study. There were only two years of background data (7 storms—maximum bankfull event) for hydrology and water quality, but four years for fisheries and water temperature data. The eight gaging stations use the Turbidity Threshold Sampling (TTS) system for measuring turbidity and sampling suspended sediment designed by the USFS-PSW staff in Arcata, and similar equipment is used at both Hinkle and Caspar Creeks. Logging of the first four units located in headwater tributaries began this summer; harvesting the second set of logging units located along fish bearing watercourses will begin in 2007. PowerPoint presentations developed for a two-day Hinkle Creek conference held in October are available at: <http://outreach.forestry.oregonstate.edu/hinklecreek/agenda.htm>. **Updates on the project will be provided at future MSG meetings.**

Interagency Mitigation Monitoring Program (IMMP) Update

Pete Cafferata briefly updated the group on the developing IMMP process. The MSG IMMP Subcommittee met on October 26th in Willows to move forward on developing the IMMP pilot program. It was agreed that the pilot would focus only on watercourse crossings and road segments that drain to the crossings, since past monitoring work has shown that these areas produce disproportionately high sediment inputs to watercourses. Crossings with special mitigations and/or higher risk will have the highest priority for inclusion. A time study will be included in the pilot to document the length of time required to make field measurements and observations. Crossings will be monitored with relatively simple previously developed field forms and performance-based standard approaches. The IMMP pilot team will take advantage of documentation from PHI reports and Review Team discussions to select high risk plans. If possible, pre-project data collection will occur at the crossing sites, as well as an immediate post-operations implementation evaluation and an effectiveness evaluation following one to three years. The pilot program is projected to last one to two years. **The next meeting of the IMMP Subcommittee is scheduled for December 8th at 10:00 a.m. at the Mendocino Forest Supervisors Office in Willows.**

Reports on Ongoing Projects

Very brief updates on the MSG cooperative instream watershed monitoring projects were provided. Peter Ribar stated that all the monitoring stations are up and running in the South Fork Wages Creek watershed. Adjustments in the turbidity thresholds set for triggering the ISCO pumping samplers were made to increase the number of pumped samples. Graham Matthews' report summarizing the first two years of data collection is expected within the next two weeks. The sediment budget by Dr. Lee Benda should follow shortly thereafter. Teri Jo Barber has written a draft final report for the Garcia River watershed on the turbidity and gravel sampling work conducted in water years 2004 and 2005. It is currently being reviewed by CDF, the NCRWQCB, and the MCRCD. There was no new information from Dr. Cajun James on the Judd Creek project. The Little Creek watershed study located on the Swanton Pacific Ranch in the Santa Cruz Mountains is the newest MSG cooperative instream monitoring project. CDF has developed draft contract language for a three-year contract with Cal Poly San Luis Obispo. The principle investigator for this project is Dr. Brian Dietterick. SPI is also providing funding for this study, with possible support from other industrial timberland owners in California.

Pete Cafferata provided a brief update on the Modified Completion Report final report being written (in Clay Brandow's absence). The watercourse crossing section of the report has been completed. Good progress is being made for the remaining main sections on WLPZ protection and roads. **A final draft will be finished by the end of 2005, with presentation of the report to the MSG at the meeting scheduled in January. We plan subsequent presentations to the BOF and possibly the Regional Water Boards, if so requested.**

Next MSG Meeting Date

The next MSG meeting date was set for January 24th, but a meeting location has yet to be selected. When this information is available, it will be emailed to the group along with the meeting agenda.